

HI-TRAC[®] CMU

CYCLIST AND PEDESTRIAN MONITORING UNIT



OVERVIEW

The HI-TRAC[®] CMU is a highly accurate bicycle and pedestrian monitoring system that:

- Detects vulnerable road users in multi-modal environments
- Integrates with traffic signals, active information, or safety warning signs to communicate cyclists and pedestrians are present to the motoring public
- Supports wider efforts to build more sustainability and fitness into personal mobility

With a small footprint and low power requirements, the HI-TRAC CMU is easily installed to monitor up to four dedicated cycle or mixed traffic lanes using state-of-the-art piezo-electric sensor technology. It also detects bicycles constructed of non-metal material such as carbon fiber - a major advantage to alternative inductive loop based technologies.

Unique algorithms developed by Q-Free measure axle count, speed, and wheelbase to distinguish true bicycles from other traffic including children's scooters, prams, trolleys, motorbikes, and mopeds.

Pedestrian detection is available via the integration of passive pyroelectric infrared sensors mounted on the roadside pillar. For increased accuracy, an overhead pedestrian detection option is available - subject to additional power requirements.

BENEFITS

- Monitor up to four bicycle and/or pedestrian lanes
- Utilize on dedicated cycle paths or mixed traffic lanes
- Distinguish true bicycles from other types of traffic with speed and gap/headway measurements
- Operate effectively with sustainable power supplies
- Integrate with active signage for real-time display of cycles and pedestrians
- Protect vulnerable road users in multi-modal environments via integration with traffic signal controllers



HIGHLY ACCURATE
CYCLE & PED
DETECTION



MONITOR UP TO
FOUR
TRAFFIC LANES

BICYCLE DETECTION

- Single bicycles
- Bicycle clusters
- Bicycles traveling in two directions
- Bicycles with pedestrians walking nearby
- Non-metal bicycles including carbon fiber

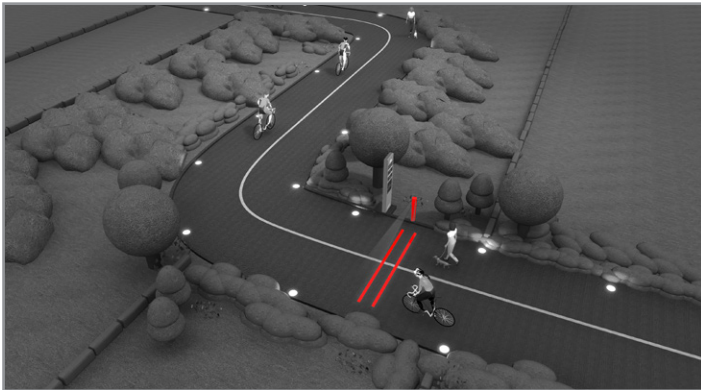
PEDESTRIAN DETECTION

As an optional feature, the HI-TRAC CMU facilitates pedestrian detection on shared use paths only - either as a standalone feature or integrated as part of a combined cycle/pedestrian configuration. It allows the ability to monitor any conflict on shared use paths by monitoring speed information.

INSTALLATION

The HI-TRAC CMU is a small, low-powered electronic system that can be easily installed at dedicated cycle ways or mixed traffic lanes. Installation requires two piezo-electric sensors per cycle lane or mixed traffic lane and one pyroelectric infrared sensor or aboveground pedestrian sensor per walkway.

The unit is sealed to IP68 specifications and can be installed into a small above-ground pillar, post, or cabinet. It can be powered from as little as a compact 3W solar panel mounted on top of the small pillar. Typical installation time is two hours.



Installation illustration

SOFTWARE

- HI-COMM 100 compatible
- Data reports: MS Excel / CSV, Graphs, and TMAPS
- Data hosting services: InfoQus, C2 Web, MS2, and Transmetric
- Data download, analysis, real-time vehicle-by-vehicle (VBV) view, report generation, and diagnostics

TECHNICAL SPECIFICATIONS

Storage capacity:	8GB microSD non-volatile 365-day VBV capacity
Data transmission:	Ethernet or GPRS/2G/3G/4G to a web server for secure storage <i>(Note: Ethernet option available for mains powered sites only)</i> Legacy GSM dial-up communication Local download to PC or tablet using Q-Free's HI-COMM app Bluetooth™ communications option
Input/Output ports:	8 x piezo-electric sensors 4 x pyroelectric infrared sensors 1 x GSM/GPRS or Ethernet modem 1 x Bluetooth 4 x triggered outputs
Power supply:	6V 8Ah lead-acid rechargeable Optional integrated 3W or 10W solar panel mounted on Haldo pillar or cabinet
IP rating:	IP68
Dimensions (H x W x D):	120 x 140 x 80 mm (4.7" x 5.5" x 3.1")
Weight:	1 kg (2.2 lbs)



HI-TRAC® CMU unit